Multiplex and quantitative pathogen detection using MLPA-CE-SSCP

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The detection of pathogenic bacteria is key to the prevention and identification of problems related to health and safety. In spite of the real need for obtaining analytical results in the shortest time possible, traditional and standard bacterial detection methods may take up to 7 or 8 days to yield an answer. This is clearly insufficient, and many researchers have recently geared their efforts towards the development of rapid methods.
Here, we demonstrate the novel multiplex pathogen detection method using capillary electrophoresis-single strand conformation polymorphism (CE-SSCP) coupled with multiplex ligation-dependent probe amplification (MLPA). MLPA-CE-SSCP is composed of four major steps which are probe hybridization, probe ligation, multiplex amplification and detection. Using eight foodborne pathogens as a model set, we could obtain the results by MLPA-CE-SSCP which illustrate a strong potential in clinical diagnosis, food safety and biosafety .